2004 Annual Drinking Water Quality Report
Fort Bragg Water System
PWS ID# 03-26-344

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about from where your water comes, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information, because informed customers are our best allies.

What EPA Wants You to Know
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental protection Agency/Center for Disease Control (EPA/CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

Fort Bragg's drinking water comes from the Lower Little River that runs along the northern boundary of Fort Bragg and Pope Air Force Base. The Department of the Army owns the Fort Bragg Water Treatment Plant (WPT) and the land surrounding the two raw water intakes. After the water is taken from the river, it is treated to remove several contaminants and a disinfectant is added to protect you against microbial contaminants.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for the Fort Bragg Water System was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing condition of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating
Lower Little River	Moderate

The complete SWAP Assessment report for the Fort Bragg Water System may be viewed on the Web at: http://www.deh.enr.state.nc.us/pws/swap To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-715-2633.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCS's in the assessment area.

Violations that Your Water System Received for the Report Year

In February 2004 our first quarter compliance sample for haloacetic acids (HAA) resulted in violation of the running annual average of 60 parts per billion (ppb). We averaged 62 ppb. In 2003 we began implementation of additional treatments techniques to reduce the HAA's and the level of HAA's in the water and the quarterly sampling has been well below the MCL , but when averaged with past quarters, the reduction has not been enough to bring the running annual average below the MCL for compliance in the first quarter of 2004. The HAA average has continued to fall and we have been back in compliance with the running annual average since the second quarter of 2004.

During the month of August 2004, only 87.6% of the turbidity measurements in the combined filter effluent were at or less than 0.3 NTU and consequently, the 95% turbidity requirements were not met. Fort Bragg was in violation of the Interim Enhanced Surface Water Treatment Rule for failure to provide adequate filtration. Our water system employees failed to arrange for a Comprehensive Performance Evaluation (CPE) within 30 days of the July and August 2004 exceedances. This CPE was necessary because we exceeded 2.0 NTU in two consecutive 15 minute turbidity readings for two consecutive months. The CPE has been completed and the recommendations to prevent further turbidity violations are being implemented at the plant. These exceedances were due to high turbidity in the source water and the filter control system at the water plant was only operating at 50% efficiency. DPW is replacing the filter control system and the filter media at this time. The operation of backwashing the filters has increased and additional tests are being conducted during normal operation to determine if the water needs additional chemicals to lower the settled water turbidity. These actions have kept the plant from further turbidity violations.

What If I Have Any Questions Or Would Like to Become More Involved?

The Directorate of Public Works is committed to supplying water that meets or surpasses state and federal regulations. If you have any questions regarding this report of your drinking water, please call 907-2419 or 396-2022.

Water Quality Data Table of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table are from testing done January 1 through December 31, 2004.** The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Important Drinking Water Definitions:

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) -the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Residual Disinfection Level Goal – The "Level" (MRDLG) of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfection Level – The "Highest Level" (MRDL) of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology
Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Extra Note: MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Turbidity-Systems with population >10,000

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	Yes	1.01	N/A	TT = 1 NTU	Soil runoff
		88%		TT = percentage of samples < 0.3 NTU	

* Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be below 0.3 NTU.

Inorganics Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	10/06/-04	No	0.53	.02 – 1.5	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Unregulated Inorganics Contaminant

Contaminant (units)	Sample Date	Your Water	Range Low High	Proposed MCL
Sulfate (ppm)	10-6-04	12.87	N/A	500

Unregulated VOC Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low High
Chloroform (ppb)	3-10-04	.036	N/A
Bromodichloromethane (ppb)	3-10-04	.005	N/A

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90^{th} percentile)	Jun-Sep 2004	.292	None	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90^{th} percentile)	Jun-Sep 2004	14	3*	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

*Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791**). *Residents of the three sites above the action level have been notified.***

Disinfection By-Product Precursors Contaminants

Contaminant (units)	Sample Date	MCL/TT Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Organic Carbon (ppm) (TOCs)-RAW	2004	N	5.4	1.6-9.9	N/A	TT	Naturally present in the environment
Total Organic Carbon (ppm) (TOCs)-TREATED	2004	N	1.2	38%-78%	N/A	TT	Naturally present in the environment

Note: Depending on the results of the TOC in our source (raw) water the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal there is an "alternative % removal". If we fail to meet that, we are in violation of a Treatment Technique. Fort Bragg WTP uses Step 1 to comply with TOC removal. That is why you see the differences in the ranges. The treated water is within % removal range and the raw is within a ppm range.

Alternative Compliance Criteria (ACC)	
Alt. 1	Source Water TOC < 2.0 mg/L
Alt. 2	Treated Water TOC < 2.0 mg/L
Alt. 3	Source Water SUVA ≤ 2.0 L/mg-m
Alt. 4	Treated Water SUVA ≤ 2.0 L/mg-m
Alt. 5	Treated Water Alkalinity < 60 mg/L (for softening systems only)
Alt. 6	THM & HAA RAA's ≤ 1/2 MCL & uses only chlorine
Alt. 7	Source TOC RAA < 4.0 mg/L and Source Alkalinity > 60 mg/L and THM & HAA RAAs ≤ 1/2 MCL

STEP 1 TOC Removal Requirements			
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	>60-120	>120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Disinfection By-Product Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water (AVG)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	No	50	7 - 50	N/A	80 or 100	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	Yes	62	12 - 62	N/A	60	By-product of drinking water disinfection
Chloramines (ppm)	No	2.9	.95 – 2.9	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm)	No	1.62	.02-2.2	MRDLG = 4	MRDL = 4	Water additive used to control microbes

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Manganese (ppm)	10-6-04	.019	N/A	0.05
Sodium (ppm)	10-6-04	2.37	N/A	N/A
pH	10-6-04	7.8	N/A	6.5 to 8.5

NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Fort Bragg Water System Failed to Arrange for the Conduct of a Comprehensive Performance Evaluation (CPE) and to Submit a CPE Summary Report to the State

Our water system recently violated a drinking water regulation. Even though this is not an emergency, as our customer, you have a right to know what happened, and what we are doing to correct this situation.

We are required to routinely monitor the water treatment plant processes for turbidity. Results of regular monitoring are an indicator of whether we are effectively filtering the drinking water supply. After exceeding individual filter effluent turbidity limits in two consecutive 15-minute readings in July and again in August 2004, we did not make arrangements for the conduct of a Comprehensive Performance Evaluation (CPE) within 30 days of the August 31, 2004 exceedances and did not submit a CPE Summary Report to the State within 90 days of the August 31 2004 exceedances, as required by the drinking water regulations.

What should I do?
You do not need to use an alternative (e.g. bottled) water supply.

What does this mean?
This was not an immediate risk. If it had been, you would have been notified immediately. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

What Happened? What is being done? When will the problem be corrected?
We are required to report specific data to the State whenever an individual filter has a measured turbidity level of greater than 2.0 Nephelometric Turbidity Units (NTU) in two consecutive measurements taken 15 minutes apart at any time in each of two consecutive months. As a result of this exceedance, we were required to arrange to have a water treatment plant CPE performed by a State approved third party and to submit the CPE Summary Report to the State within the required timeframes. Although we had the CPE done we were not within the required timeframe. The CPE was completed November 9, 2004. The CPE summary report was completed and submitted to the State January 25, 2005. The water treatment plant began corrections for the turbidity as soon as it realized the problem and has since begun to implement necessary modifications to prevent future occurrences.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact

Brenda Audette Lynn Vaughan	(910) 396-2022 (910) 907-2419	Water Management Environmental Compliance
System Name **FORT BRAGG WATER SYSTEM**	System PWSID# **03-26-344**	System Address **Fort Bragg, N.C. 28310**

Violation Letter Date: Jan. 25, 2005 **Date Notice Distributed:** ____ 2005 **Method of Distribution:** Mail, email, hand delivery

Public Notification Certification:

The public water system named above hereby affirms that public notification has been provided to its consumers in accordance with all delivery, content, format, and deadline requirements specified in 15AC 18C.1523.

Owner/Operator GREGORY G. BEAN, DPW (Name) 20 May 2005 (Date)